MS4 Permit No. WI-S050075-3

2022 MS4 Permit Annual Report

Section A.6.2: Annual Update on TMDL Implementation

MS4 Permit No. WI-S050075-3, Section A.6.2 Annual Reporting. For compliance options outlined under sections A.3, A.4, and A.5, the permittee shall include a description and the status of progress toward implementing the identified actions and activities in their MS4 annual reports due by March 31 of each year.

The City of Watertown has made progress in implementing the Rock River TMDL in 2022 with the following tasks:

1. Complete the 2014 baseline WinSLAMM modeling revisions.

   The City completed revisions to the baseline WinSLAMM TMDL modeling by working with a stormwater consultant to evaluate and exclude optional land uses per the 2014 TMDL-MS4 Guidance document (TMDL Guidance for MS4 Permits: Planning, Implementation, and Modeling Guidance # 3800-2014-04). This baseline TSS & TP revisions also included pre-2014 Best Management Practices (BMPs) and roadside swales that were not accounted for in the original 2014 TMDL WinSLAMM analysis.

   This evaluation and revisions to the 2014 WinSLAMM results included reducing the acreage included in each of the 3 TMDL reachsheds that impact the City (reachsheds 28,29 & 30) based on optional areas listed in the TMDL Guidance for MS4 Permits: Planning, Implementation, and Modeling Guidance # 3800-2014-04 such as lands that drain directly to waterways without first flowing through the City's MS4, wetlands that were previously modeled as open space, industrial areas covered by Wisconsin Department of Natural Resources industrial stormwater permits (NR 216, subchapter II), and by adjusting land uses to the actual land use as opposed to the zoning that had been applied to individual parcels. (For example, an 8-acre property with 1 acre of develop industrial land use and 7 acres of open space/woods was changed from 8 acres of industrial to 1 acre of industrial and 7 acres open space.)

   The City's original 2014 WinSLAMM analysis to meet the TMDL requirements of the MS4 Permit was being worked on through a UNPS & Storm Water Planning Grant at the same time the committee was meeting and developing the TMDL-MS4 guidance document in 2013-2014. Much of the baseline determinations regarding land uses and lands to be included in the modeling had been completed prior to release of the guidance document.

The revisions resulted in changes to the City's Total Suspended Solids and Phosphorus loadings for each of the three affected TMDL reachsheds, as shown below.

Total Suspended Solids (All BMPs Constructed 2014 or Earlier)

Reachshed	Area (acres)	TSS Loading -- No Controls (lbs)	TSS Loading -- With Controls (lbs)	Actual TSS Reduction	Required TSS Reduction
Sinissippi Lake (#28)	1,510	428,885	363,162	15.3%	40%
Middle Rock River (#29)	2,792	947,171	762,420	19.5%	44%
Johnson Creek (#30)	113	44,029	37,340	15.2%	40%

Total Phosphorus (All BMPs Constructed 2014 or Earlier)

Reachshed	Area (acres)	TP Loading -- No Controls (lbs)	TP Loading -- With Controls (lbs)	Actual TP Reduction	Required TP Reduction
Sinissippi Lake (#28)	1,510	1,441	1,280	11.2%	28%
Middle Rock River (#29)	2,792	2,664	2,250	15.5%	64%
Johnson Creek (#30)	113	112	100	10.8%	27%

DNR staff reviewed and approved these baseline TMDL modeling revisions in 2022.

2. <u>Complete Total Phosphorus/Leaf Collection Analysis.</u>

The City completed an analysis of the phosphorus reductions related to the annual Leaf Collection Program as part of the Urban nonpoint Source & Stormwater Management Planning Grant # USP14291Y22, using the WDNR Municipal Phosphorus Reduction Credit for Leaf Management Programs guidance dated February 17, 2022. Phosphorus reductions increased in all three reachsheds, with the biggest gains in phosphorus control in reachsheds 28 & 29.

Total Phosphorus Reduction with Leaf Management 2022 Credit vs. 2021 Modeling (All BMPs)

Reachshed	Area (Acres)	TP Load Reduction Efficiency per 2021 modeling (%)	Actual TP Reduction 2022 Leaf Management Credit
Sinissippi Lake (#28)	1,510	11.71%	15.74%
Middle Rock River (#29)	2,792	16.35%	18.01%
Johnson Creek (#30)	113	10.75%	10.93%
Overall	4,415	14.62%	17.05%

The City is currently revising ordinance language to meet the DNR guidance document and has ordered a new street sweeper for delivery in 2023. The City plans to include the results of the Total Phosphorus/Leaf Collection Analysis in the TMDL Implementation Plan, due in October 2023, and plans to begin implementing the street sweeping program to meet the requirements of the guidance document in 2024.

DNR staff reviewed and approved these baseline TMDL modeling revisions in 2022.

3. Develop Water Quality Trading program with Jefferson County & Rock River Coalition.
   The City, Jefferson County & the Rock River Coalition have come together to develop a Water Quality Trading (WQT) program. This program will assist the City's goals of meeting the TSS & TP reduction requirements in the Rock River TMDL reachsheds 28 & 29. This partnership incorporates the nonpoint source experience and expertise of the Jefferson County staff and the relationships and outreach experience and expertise of the Rock River Coalition with the City's funding and need to meet the TMDL requirements. DNR staff have been very helpful in providing clarifications and MS4 Permit program guidance in developing a watershed-style WQT program. The first practices under the new WQT program are anticipated to be worked on in 2023.

4. Plan and Implement new Stormwater BMPs.

   The City was awarded two new Urban Nonpoint Source & Storm Water Construction Grants for 2023-2024: one for a new biofilter in the City's Yard Waste Site in reachshed JC-30 and one for deeper catch basins in the historic South Washington Street neighborhood in 2023. Four new permeable pavement systems and three new biofilters were installed in city parking lots in 2022 (Jones Street Parking Lot, City Hall-Back Parking Lot on Cady Street and InterUrban Trail Parking Lot.) Additional permeable pavers and a biofilter were installed on Water Street, as part of the new Town Square project. A water quality analysis of the recommendations stemming from the City's current city-wide Flood Study effort is being completed through the UNPS & Storm Water Planning Grant # USP14291Y22.

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